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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,527	09/18/2003	Todd C. Bailey	PA51-22-02	5895
7590 08/22/2006				
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Dallas, TX 75201				
		EXAMINER		
		LUK, EMMANUEL S		
		ART UNIT		PAPER NUMBER
		1722		

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/666,527

Applicant(s)

BAILEY ET AL.

Examiner

Emmanuel S. Luk

Art Unit

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/29/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7 and 11-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Mancini (6,387,787) in view of Lof (2003/0224262).

Mancini teaches a lithographic template having a bulk material of the template (12), alignment marks (22) that are of another material having a different index of refraction including a metal (gold), space between the alignment marks (25) allowing for radiation to pass through, and the use of a mask in creating the template (Col. 5, line 45). Mancini fails to teach the alignment mark embedded in the material.

Lof teaches an alignment mark that can be placed on a side of substrate, but also includes the alignment mark having subsequent material deposited on top such that it is embedded and no longer exposed at the surface (see paragraph 33 on page 4). It would have been obvious to one of ordinary skill in the art to include the subsequent material to be the same material as the substrate that the alignment mark is in the side of since Lof teaches the concept that the alignment mark can be embedded and still be used for calibrating the machine.

It would have been obvious for one of ordinary skill in the art to modify Mancini with the embedding the alignment mark as taught by Lof so that the alignment mark is no longer necessarily exposed at the surface (Col. 6, lines 40-41).

3. Claims 8, 16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mancini (6387787) in view of Lof (2003/0224262) and Calveley (6165911).

Mancini teaches a lithographic template having a bulk material of the template (12), alignment marks (22) that are of another material having a different index of refraction including a metal (gold), space between the alignment marks (25) allowing for radiation to pass through, and the use of a mask in creating the template (Col. 5, line 45).

Mancini fails to teach a release layer and the alignment mark is embedded.

Lof teaches an alignment mark that can be placed on a side of substrate, but also includes the alignment mark having subsequent material deposited on top such that it is embedded and no longer exposed at the surface (see paragraph 33 on page 4). It would have been obvious to one of ordinary skill in the art to include the subsequent material to be the same material as the substrate that the alignment mark is in the side of since Lof teaches the concept that the alignment mark can be embedded and still be used for calibrating the machine.

It would have been obvious for one of ordinary skill in the art to modify Mancini with the embedding the alignment mark as taught by Lof so that the alignment mark is no longer necessarily exposed at the surface (Col. 6, lines 40-41).

Calveley teaches the use of a release material layer with the stamp during the process (Col. 7, line 53). Thereby, one can modify Mancini with the addition of a release layer to allow for easier removal of the material from the stamp.

It would have been obvious for one of ordinary skill in the art to modify Mancini with the addition of a release layer as taught by Calveley because it allows for easier removal of the product from the mold surface.

4. Claims 9, 10, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mancini in view of Lof and Caveley as applied to claim 8 and 16 above, and further in view of Jeans (2004/0219246).

Mancini fails to teach fluorocarbons.

Jeans teaches the use of fluorocarbons as a release layer. "Suitable materials for the release layer 13 include but are not limited to a fluorocarbon material. As an example, the fluorocarbon material for the release layer 13 can be deposited using a plasma deposition of a trifluoromethane (CHF_3) gas for about 5.0 minutes." [0086]

It would have been obvious for one of ordinary skill in the art to modify Mancini with the use of fluorocarbons as a release layer as taught by Jeans because it is an equivalent substitution for use as a release layer within the molding arts.

Response to Arguments

5. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection. The previous rejections with the Gimkiewicz reference have been withdrawn and the arguments concerning the reference are now moot. However, the claims still remain rejected under the new grounds of rejection. The applicants have changed the claims to include the alignment marks being embedded in the imprint template. The newly found Lof reference (used in the rejection with Mancini) teaches the concept of embedding the alignment marks with subsequent material and is no longer exposed at the surface. Thereby, it would be obvious to one of ordinary skill in the art to modify Mancini with the Lof reference in embedding the alignment material and thereby limiting exposure at the surface. Both references are lithographic apparatus and are of particular relevance since both also deal with calibration methods within the lithography field.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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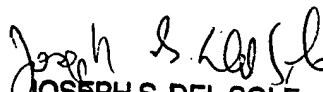
mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (571) 272-1134. The examiner can normally be reached on Monday-Fridays from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra N. Gupta can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EL


JOSEPH S. DEL SOLE
PRIMARY EXAMINER

8/21/06